

**IN THE CLAIMS:**

1. -2. (Cancelled)

3. (Currently Amended) A mass flow controller module that can control fluid flow and be installed as a unitary component, comprising:

a housing block member having a fluid passageway, mounted on the housing block member from an upstream position is a pressure control valve unit, a flow rate sensor unit and a flow rate control valve unit;

a pressure sensor unit operatively mounted in the fluid passageway; and

a control unit operatively connected to the pressure control valve unit, the flow rate sensor unit, the flow rate control valve unit and the pressure sensor unit whereby the control unit can automatically set and maintain a constant flow rate despite changes in fluid pressure, wherein the housing block member has a non-linear fluid passageway with openings to the passageway on an upper surface, the openings including a first annular valve seat for operatively interfacing with a diaphragm member of the pressure control valve unit, a pair of ports for connection to the flow rate sensor unit and a second annular valve seat for operatively interfacing with a diaphragm member of the flow rate control valve.

4. (Previously Presented) The mass flow controller module of claim 3 wherein a second pressure sensor unit is mounted between the pressure control valve and the flow rate sensor and operatively connected to the control unit.

5. (Previously Presented) The mass flow controller module of claim 3 wherein the pressure control valve unit, flow rate sensor unit and flow rate control valve unit are respectively

mounted adjacent each other on fluid openings on the housing block member including a pressure control valve seat and a flow rate control valve seat.

6. (Previously Presented) The mass flow controller module of claim 3 further including a filter member mounted in the housing block member fluid passageway upstream of the pressure control valve unit.

7. (Cancelled)

8. (Currently Amended) The mass flow controller module of claim [[7]] 3 wherein the openings to the fluid passageway are aligned in a row adjacent each other across the housing block member.

9. (Currently Amended) In a semiconductor production assembly utilizing a source of fluid, the improvement of a mass flow controller module that can control fluid flow and be installed as a unitary component, comprising:

a housing block member having a fluid passageway connected to the source of fluid, mounted on the housing block member from an upstream position is a pressure control valve unit, a flow rate sensor unit and a flow rate control valve unit;

a pressure sensor unit operatively mounted in the fluid passageway; and

a control unit operatively connected to the pressure control valve unit, the flow rate sensor unit, the flow rate control valve unit and the pressure sensor unit whereby the control unit can automatically set and maintain a constant flow rate despite changes in fluid pressure, wherein the housing block member has a non-linear fluid passageway with openings to the passageway on an upper surface, the openings including a first annular valve seat for operatively

interfacing with a diaphragm member of the pressure control valve unit, a pair of ports for connection to the flow rate sensor unit and a second annular valve seat for operatively interfacing with a diaphragm member of the flow rate control valve.

10. (Previously Presented) The semiconductor assembly of claim 9 wherein a second pressure sensor unit is mounted between the pressure control valve and the flow rate sensor and operatively connected to the control unit.

11. (Previously Presented) The semiconductor assembly of claim 9 wherein the pressure control valve unit, flow rate sensor unit and flow rate control valve unit are respectively mounted adjacent each other on fluid openings on the housing block member including a pressure control valve seat and a flow rate control valve seat.

12. (Previously Presented) The semiconductor assembly of claim 9 further including a filter member mounted in the housing block member fluid passageway upstream of the pressure control valve unit.

13. (Cancelled)

14. (Previously Presented) The semiconductor assembly of claim 9 wherein the openings to the fluid passageway are aligned in a row adjacent each other across the housing block member.

1           15. (New) In a semiconductor production assembly utilizing a source of fluid, the  
2 improvement of a mass flow controller module that can control fluid flow and be installed as a  
3 unitary component, comprising:

4           a housing block member having a fluid passageway connected to the source of  
5 fluid, mounted on the housing block member from an upstream position is a pressure control  
6 valve unit, a flow rate sensor unit and a flow rate control valve unit;

7           a pressure sensor unit operatively mounted in the fluid passageway; and

8           a control unit operatively connected to the pressure control valve unit, the flow  
9 rate sensor unit, the flow rate control valve unit and the pressure sensor unit whereby the control  
10 unit can automatically set and maintain a constant flow rate despite changes in fluid pressure,  
11 wherein the housing block member has a non-linear fluid passageway with openings to the  
12 passageway on an upper surface, the openings including a first annular valve seat for operatively  
13 interfacing with a diaphragm member of the pressure control valve unit, a pair of ports for  
14 connection to the flow rate sensor unit and a second annular valve seat for operatively interfacing  
15 with a diaphragm member of the flow rate control valve and the openings to the fluid  
16 passageway are aligned in a row adjacent each other across the housing block member.

1           16. (New) The semiconductor assembly of claim 15 wherein a second pressure  
2 sensor unit is mounted between the pressure control valve and the flow rate sensor and  
3 operatively connected to the control unit.

1           17.   (New) The semiconductor assembly of claim 16 wherein the pressure control  
2 valve unit, flow rate sensor unit and flow rate control valve unit are respectively mounted  
3 adjacent each other on fluid openings on the housing block member including a pressure control  
4 valve seat and a flow rate control valve seat.

1           18.   (New) The semiconductor assembly of claim 15 further including a filter member  
2 mounted in the housing block member fluid passageway upstream of the pressure control valve  
3 unit.